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BOOK REVIEW

Bioconservation and Systematics: Proceedings of the Canadian Botanical Association Conference Symposium in London, Ontario, June 2000 by James B. Phipps and Paul M. Catling, eds. 2001. 101 pp. ISBN 0-9689565-0-5 US$17.00, CAN$23.00 (softcover). Canadian Botanical Association. [for copies contact Paul M. Catling, catlingp@em.agr.ca]

This report comprises seven papers that provide a useful picture of how current trends in systematics and taxonomy affect plant conservation in the Canadian setting. Since Canada, despite its geographical size, has a relatively small flora and a relatively high number of taxonomists and herbaria (Parnell 1993), one might assume that sufficient systematic resources exist to support plant diversity studies and conservation biology. This volume provides interesting examples of systematic research for conservation, but also suggests that here, as elsewhere, there are not enough skilled taxonomists, and there is an inadequate infrastructure for collection, management, and use of systematic data.

In the first paper, "A never-ending role for biosystematics in the protection of vascular plant diversity in Canada," Catling discusses the several contributions that taxonomy and systematics make to conservation biology, with plentiful Canadian examples. In addition to re-analyses of nomenclature and the study of specific taxa of known concern, new taxa are being added to the flora, such as *Platanthera praeclara*, an orchid newly described in 1986. Canada's 147 endemics remain understudied as well, as do the successive waves of invasives. These and other tasks require more sophisticated information tools, including the development of national and local taxonomic databases, and their interfacing with global and regional data systems like the Integrated Taxonomic Information System for North America.

At the other end of the volume, Anton Reznicek ("Can systematists help conserve rare plants in the twenty-first century?") argues that there is a growing dearth of systematists acquainted with plants in their ecological settings, and that this reflects both the increased emphasis on molecular techniques and on landscape-level ecological study. This means a lack of information needed for good conservation decisions, and it is related to the

impoverishment of systematic collections, which has been noted for other groups as well (e.g., Winker 1996).

Oldham and Sorrill ("The role of conservation data centres in the conservation of Canada's flora") describe the relatively recent establishment of Conservation Data Centres, or Natural Heritage Programs—the first being set up in Québec in 1988. The authors point out that the Centres' work is hampered and perhaps threatened by the paucity of biologists trained in field identification and in the use of (and contribution to) reference collections.

Another aspect of the biodiversity infrastructure in Canada, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) is described by Catling in "Protecting vascular plant biodiversity in Canada: Progress and problems with the taxon approach." Once again, the basic challenge of up-to-date, comprehensive, and reliable catalogs of taxa and their status is urgent, at a time when government policy on biodiversity is evolving.

Roberts ("Planning with plants in Illinois") contributes a description of the interconnected efforts that have contributed to the evaluation and protection of centers of biodiversity in that intensively settled and studied state. Brouillet ("Floristics and conservation: An example from Newfoundland") points out that while a basic inventory of the boreal flora may be nearly achieved, much remains to be known about the distribution of the taxa across the huge expanse of the biome. He describes three complementary surveys undertaken in Newfoundland, at three different scales, and demonstrates that such studies provide much new information about species distribution and abundance. He also shows that the electronic cataloguing and management of floristic data are essential elements of basic floristic studies of this sort, as well as being essential to management policy.

Finally, Husband and Burgess discuss "Evaluating hybridization as a cause of species endangerment: A role for systematics in plant conservation." Specifically, they discuss studies that evaluate the impact of hybridization of the rare red mulberry (*Morus rubra*) with the introduced white mulberry (*M. alba*). Here is an interesting case in which some hybrids are morphologically identifiable, but molecular studies reveal much more hybridization than hitherto suspected.

There are no breakthrough papers in this collection, but botanical libraries should have it on hand. This will be a useful volume for those with an interest in the current state of plant conservation

in Canada. For those with a more general interest in the role of systematics in the protection of biodiversity, the articles provide an interesting patchwork of issues and examples very practically grounded in the current science and policy climate of Canada. Almost every page reemphasizes the urgent need for taxonomists skilled in the field and the herbarium, and the papers provide concrete examples of how this need affects the progress of plant conservation.

LITERATURE CITED

PARNELL, J. 1993. Plant taxonomic research, with special reference to the tropics: Problems and potential solutions. Conservation Biol. 7: 809–814.

WINKER, K. 1996. The crumbling infrastructure of biodiversity: The avian example. Conservation Biol. 10: 703–707.

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